

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference IH-153	FOR FURTHER ACTION		See Form PCT/PEA/416
International application No. PCT/JP2004/017034	International filing date (<i>day/month/year</i>) 10.11.2004	Priority date (<i>day/month/year</i>) 11.11.2003	
International Patent Classification (IPC) or national classification and IPC A01N37/18, A01N37/40, C07C233/65, C07C233/66, C07C255/24, C07C211/27, C07C235/46, C07C233/05, C07C233/07, C07C233/15, C07C233/25, C07C233/09, C07C243/22, C07C251/04, C07C243/28, C07C275/54, C07C237/30, C07C251/48, C07C233/67, C07D213/64, C07D213/26, C07D213/75, C07D317/30, C07D307/52,			
Applicant ISHIHARA SANGYO KAISHA, LTD. et al			
1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36. 2. This REPORT consists of a total of 7 sheets, including this cover sheet. 3. This report is also accompanied by ANNEXES, comprising: a. <input type="checkbox"/> <i>sent to the applicant and to the International Bureau</i> a total of sheets, as follows: <input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. b. <input type="checkbox"/> <i>(sent to the International Bureau only)</i> a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).			
4. This report contains indications relating to the following items: <div style="margin-left: 20px;"> <input checked="" type="checkbox"/> Box No. I Basis of the opinion <input type="checkbox"/> Box No. II Priority <input checked="" type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input type="checkbox"/> Box No. VII Certain defects in the international application <input type="checkbox"/> Box No. VIII Certain observations on the international application </div>			
Date of submission of the demand 11.03.2005		Date of completion of this report 08.11.2005	
Name and mailing address of the international preliminary examining authority: <div style="display: flex; align-items: center;"> <div> European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016 </div> </div>		Authorized Officer Fitz, W Telephone No. +31 70 340-	



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**INTERNATIONAL PRELIMINARY REPORT
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Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
 - ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages

1-85 as originally filed

Claims, Numbers

1-6 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
 - ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):
 4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
 - ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

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Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application,

☒ claims Nos. 4

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (specify):

☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☒ no international search report has been established for the said claims Nos.

☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:

the written form ☐ has not been furnished

☐ does not comply with the standard

the computer readable form ☐ has not been furnished

☐ does not comply with the standard

☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions.

☒ See separate sheet for further details

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-3,6
	No: Claims	4,5
Inventive step (IS)	Yes: Claims	-
	No: Claims	1-6
Industrial applicability (IA)	Yes: Claims	1-6
	No: Claims	-

2. Citations and explanations (Rule 70.7):

see separate sheet

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Re Item III**Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

The initial phase of the search revealed a very large number of documents relevant to the issue of novelty. So many documents were retrieved that it is impossible to determine which parts of claim 4 may be said to define subject-matter for which protection might legitimately be sought (Article 6 PCT). For these reasons, a meaningful search over the whole breadth of the claim is impossible. Consequently, the search has been restricted to the compounds according to claim 5.

Re Item V**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

- D1: EP-A-1 010 690 (KUMIAI CHEMICAL INDUSTRY CO., LTD; IHARA CHEMICAL INDUSTRY CO., LTD) 21 June 2000 (2000-06-21)
- D2: DATABASE CA [Online] CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; TAKIZAWA, EIJI ET AL: "[Biphenylmethyl)amino]pyridazinones and pesticides containing them" XP002316570 retrieved from STN Database accession no. 2003:146496
- D3: WALLER, STEPHEN C. ET AL: CHEMICAL RESEARCH IN TOXICOLOGY , 12(8), 690-699 CODEN: CRTOEC; ISSN: 0893-228X, 1999, XP008042143
- D4: DATABASE CA [Online] CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; MOKROUSOV, B. I. ET AL: XP002316571 retrieved from STN Database accession no. 1969:3367
- D5: WASSERMAN, EDEL: REVIEWS OF MODERN PHYSICS , 32, 443-4 CODEN: RMPHAT; ISSN: 0034-6861, 1960, XP008042145
- D6: GB-A-1 226 615 (KALLE AG) 31 March 1971 (1971-03-31)
- D7: US-A-3 183 089 (SIMON MYRON S) 11 May 1965 (1965-05-11)
- D8: CALDWELL, A. G. ET AL: JOURNAL OF THE CHEMICAL SOCIETY, ABSTRACTS 188-97 CODEN: JCSAAZ; ISSN: 0590-9791, 1948, XP008042159

1.) The subject-matter of claims 4 and 5 is not new.

D3-D8 are examples of documents disclosing compounds that fall in the scope of claim 4. The relevant passages are cited on the search report.

The document D3 discloses a compound (cf. page 691, compound 10) that also falls in the scope of claim 5.

2.) The subject-matter of claims 1-6 does not involve an inventive step.

Each of D1 and D2 can be considered to represent the closest prior art.

D1 and D2 disclose biphenyl derivatives for use as pesticides.

In the absence of a surprising effect that would be caused by a distinctive structural feature between the present compounds and those of D1 and D2 the problem underlying the present application is seen in the provision of further biphenyl derivatives for use as pesticides.

The present compounds are structurally closely related to those of D1 and D2.

- Starting from D1:

The compounds recited in present claim 1 wherein R1 is optionally alkyl substituted aminocarbonyl can be seen as a selection of the compounds of formula (I) of claim 1 of D1 wherein G is -NR₃-. The closest specifically disclosed examples of D1 are compounds 1-253 - 1-263. These compounds only differ from the compounds recited in present claim 1 in that they have a meta or para substituent on the first ring of the biphenyl moiety (whereas the compounds recited in present claim 1 have an ortho substituent X). D1 discloses many compounds wherein G is -O- that have an ortho substituent. The skilled person would assume that an ortho substituent in combination G is-NR₃- would result in further pesticides.

- Starting from D2:

The compounds recited in present claim 1 wherein R1 is a heterocyclic group only differ from the compounds of D2 in the substituents on the heterocycle: optional halogen, alkyl or haloalkyl in present claim 1 versus alkyl, halogen and carbonyl in D2.

The skilled person would assume that a heterocyclic moiety lacking the carbonyl group of the D2-compounds would also result in further pesticides.

In conclusion, the subject-matter of claim 1 and of the other independent claims 2-4 and 6,

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is obvious in the light of each of D1 and D2.

Dependent claim 5 does not appear to contain any features which, in combination with the features of any claim to which it refers, meet the requirements of the PCT in respect of inventive step.

3.) The claimed pesticides and compounds are useful for agricultural purposes.
Accordingly, the subject-matter of claims 1-6 is industrially applicable.